

DOCUMENTS COLLECTION  
MONTANA STATE LIBRARY

PLEASE RETURN

FEDERAL - STATE COOPERATIVE  
SNOW SURVEYS AND IRRIGATION WATER FORECASTS  
for

**Montana and Northern Wyoming  
Upper Missouri, Upper Columbia and  
Yellowstone Rivers**

By  
Division of Irrigation, Soil Conservation Service  
United States Department of Agriculture  
and  
Montana Agricultural Experiment Station

MONTANA STATE LIBRARY  
1918 E. 24TH ST.  
BOZEMAN, MONTANA 59715

As of

JAN 1 1951

In cooperation with the U. S. Forest Service, U. S. Geological Survey, National Park Service, U. S. Bureau of Reclamation, State Engineers of Montana and Wyoming and other Federal, State and local organizations.

Montana State Library



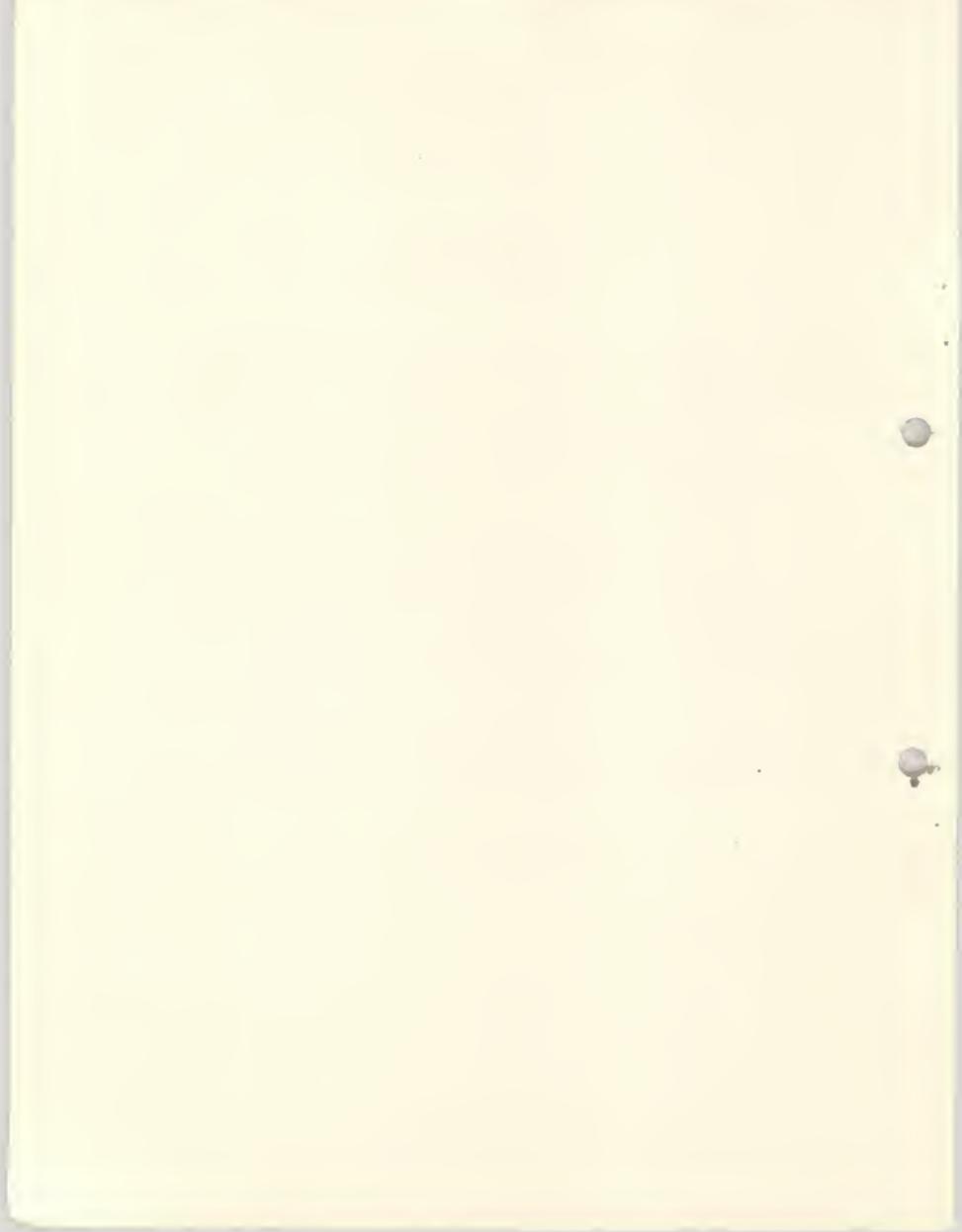
3 0864 1006 6104 3

OUTLOOK FOR  
IRRIGATION WATER SUPPLY  
January 1, 1951

Snow survey measurements made at a few key stations in the Missouri Basin on or about the first of January 1951 indicate that as of this date the snow pack in the mountains has accumulated to about an average condition based on January First measurements for the past 5 to 17 years. Snow water equivalent measurements on the Madison and Gallatin Basin are not as high as 1949 or 1950, but close to the average condition.

Only a few courses were measured on the Columbia River Basin. Measurements on or near the Continental Divide indicate that the snow pack in the Columbia Basin has also accumulated to about an average condition. There have not been sufficient surveys made to give much of an indication at this early date in the season. On February First more stations will be measured, and we will be able to form a better opinion of the snow pack at that time.

Stream-flow conditions, as reported by the U.S. Geological Survey, have been above normal during the fall and early winter. The water in storage reservoirs throughout the State is considerably above a year ago and carryover storage for irrigation and hydroelectric power is in excellent condition.



## MONTANA SNOW SURVEYS JANUARY 1, 1951

## MISSOURI BASIN

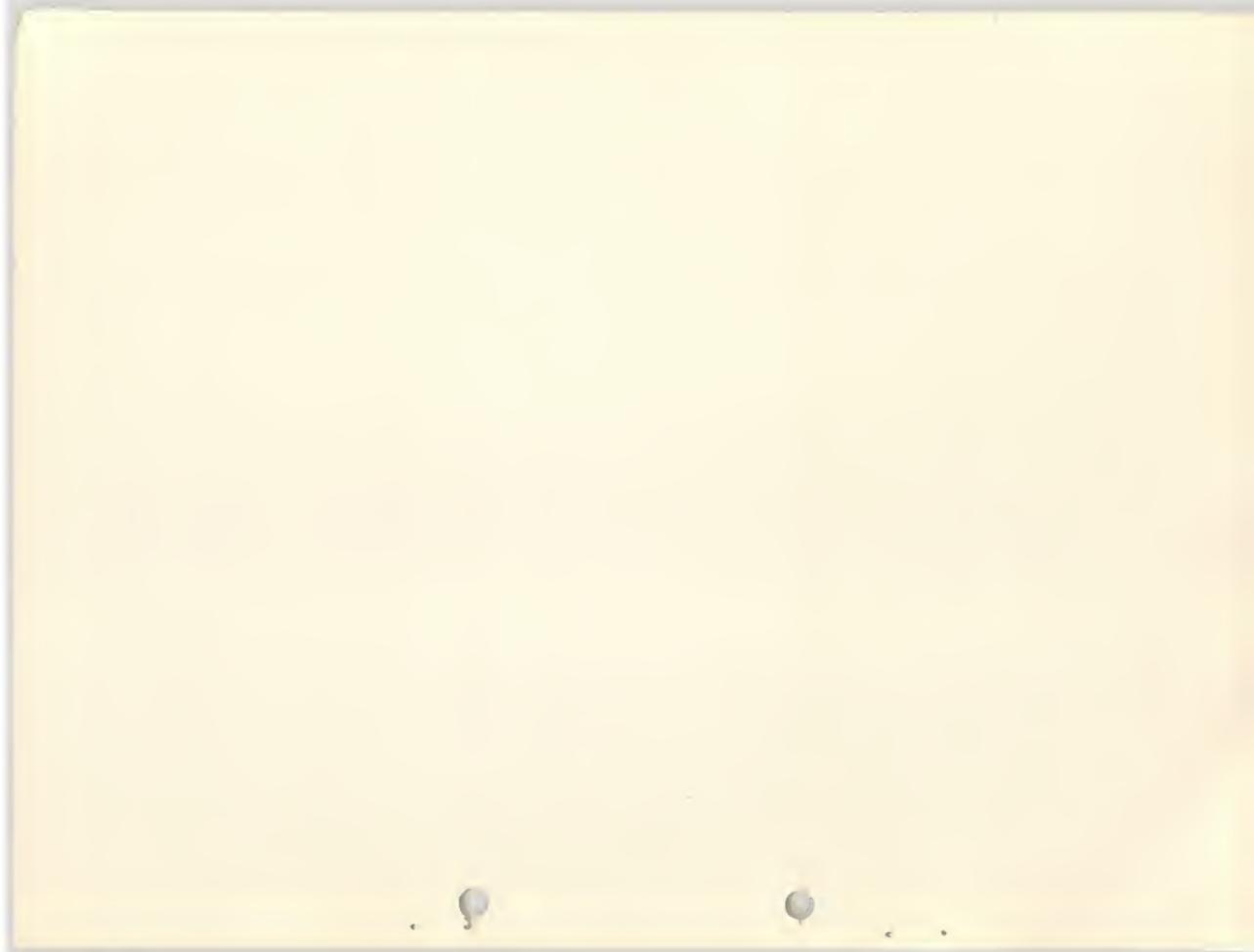
DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date	Snow	Water	Content Survey (In.)	Jan. 1 1951	Density % 1951	Water Content (Inches)			Years of Record	Ground Surface Condition		
			of Survey	Depth (In.)	Content Jan. 1 1951				Average Data						
			Past Records	Jan. 1 1949	Avg.				%Avg.						
JEFFERSON RIVER															
Kilgore (Idaho)	11E12	6200	Jan. 1	21	9.0	43	2.1	5.2	4.0	220	15	---	---		
MADISON RIVER															
Hebgen Dam	11E5	6550	Jan. 4	23	3.9	17	4.8	8.5	5.2	75	17	---	---		
West Yellowstone	11E7	6700	Jan. 4	27	5.6	21	4.1	7.8	4.6	122	14	---	---		
Norris Basin	10E2	7500	Jan. 4	17	3.6	22	-	-	-	-	1	---	---		
Island Park (Idaho)		3600	Dec. 30	20	4.0	20	5.9	8.4	5.4	74	16	---	---		
Valley View (Idaho)		6500	Dec. 29	17	3.4	20	6.2	8.0	4.7	73	15	---	---		
GALLATIN RIVER															
Mystic Lake	10D2	6600	Jan. 3	20	4.6	23	1.3	5.6	3.4	135	14	G.N.F.	---		
New World	10D1	6700	Jan. 3	21	4.4	21	2.0	6.0	4.1	89	3	G.N.F.	---		
21-Mile	11E6	7150	Jan. 4	32	7.3	23	7.4	12.7	7.1	103	13	---	---		
MISSOURI RIVER MAIN STEM															
Chessman Res.	12C5	6200	Jan. 4	6.6	1.5	23	1.7	3.1	2.0	75	16	---	---		
Ten Mile Lower	12C2	6250	Jan. 2	18	3.8	21	1.7	4.2	3.1	122	16	---	---		
Ten Mile Middle	12C3	6800	Jan. 2	25	5.2	21	3.3	6.2	4.5	116	17	---	---		
Ten Mile Upper	12C4	8000	Jan. 2	28	6.3	23	4.1	7.7	5.7	110	17	---	---		
MARIAS RIVER															
Marias Pass	13A5	5250	Jan. 2	28	7.7	28	10.3	9.9	7.0	110	17	---	---		
UPPER YELLOWSTONE															
Canyon	10E3	7750	Jan. 1	26	5.8	23	5.8	7.7	7.1	82	6	---	---		
Jook City	10E7	7400	Jan. 2	18	3.4	19	2.3	6.2	4.1	83	5	---	---		
Lake Camp	10E4	7850	Jan. 1	19	4.0	21	3.1	7.4	4.8	83	3	---	---		
Lewis Lake Div.	10E9	7900	Jan. 2	70	21.2	30	21.6	25.3	20.7	102	32	---	---		
Norris Junction	10E2	7500	Jan. 2	18	3.6	22	-	-	-	-	1	---	---		



MONTANA SNOW SURVEYS JANUARY 1, 1951

## COLUMBIA RIVER

DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date	Snow	Water	Content Survey (In.)	Jan. 1 1951	Density % 1951	Water Content (Inches)			Years of Record	Ground Surface Condition
			of	Depth	Content				Average Data	Jan. 1			
			Past Records	1950	1949				Avg.	%Avg.			
<b>FLATHEAD RIVER</b>													
Desert Mt.	13A2	5600	Jan. 3	40	6.9	17	6.2	-	-	-	2	—	—
Marias Pass	13A5	5250	Jan. 2	28	7.7	28	10.3	9.9	7.0	110	17	—	—
<b>UPPER CLARK FORK</b>													
Chessman Res.	12C5	6200	Jan. 4	6.6	1.5	23	1.7	3.1	2.0	75	16	—	—
Ten Mile Lower	12C2	6250	Jan. 2	18	3.8	21	1.7	4.2	3.1	122	16	—	—
Ten Mile Middle	12C3	6800	Jan. 2	25	5.2	21	3.3	6.2	4.5	116	17	—	—
Ten Mile Upper	12C4	8000	Jan. 2	28	6.3	23	4.1	7.7	5.7	110	17	—	—





Federal - State - Private  
COOPERATIVE SNOW SURVEYS

—  
Furnishes the basic data  
necessary for forecasting  
water supply for irrigation,  
domestic and municipal water  
supply, hydro-electric power  
generation, navigation,  
mining and industry

—

"WATER IS THE WEST'S GREATEST RESOURCE"